

## CLAIMS:

1. A method of producing DNA size standards, said method comprising the steps of:

providing a DNA template comprising multiple copies of a nucleotide motif sequence; and

preparing a dideoxy sequencing reaction using the DNA template and one dideoxy nucleotide terminator.

2. The method of claim 1, wherein the dideoxy nucleotide is selected from the group consisting of dideoxy ATP, dideoxy GTP, dideoxy CTP, dideoxy TTP and any analog thereof that can terminate the sequencing reaction.

3. The method of claim 1, wherein DNA fragments produced by the dideoxy sequencing reaction lack secondary structure.

4. The method of claim 1, wherein the motif sequence is one of a group consisting of two to six nucleotides.

5. The method of claim 1, wherein the DNA template comprises n copies of the motif sequence, wherein n is an integer from 10 to 200.

6. The method of claim 4, wherein the DNA template comprises n copies of the motif sequence, wherein n is an integer from 10 to 200.

7. The method of claim 1, wherein the DNA template comprises a microsatellite locus.

8. The method of producing a DNA size standard of claim 1, wherein the motif sequence comprises a sequence with at least one unique nucleotide base.

9. The method of producing a DNA size standard of claim 1, wherein the dideoxy sequencing reaction produces DNA fragments comprising a respective number of copies of the motif sequence

10. A DNA size standard, comprising:

a mixture of DNA fragments, each said DNA fragment being formed by a primer, 5' sequence and a respective number of copies of a motif sequence.

11. The DNA size standard of claim 10, wherein each one of said DNA fragments differ in length from one of a next shorter length and from one of a next longer length by one said motif sequence.

12. The DNA size standard of claim 10, wherein said motif sequence comprises a sequence of a group consisting of two to six nucleotides.

13. The DNA size standard of claim 10, wherein said mixture comprises DNA fragments having m to n copies of said motif sequence, where m and n are integers.
14. The DNA size standard of claim 13, wherein n is a number from 10 to 200.
15. The DNA size standard of claim 14, wherein m is a number from 1 to n.
16. The DNA size standard of claim 10, wherein said motif sequence comprises a sequence of a group consisting of two to six nucleotides.
17. The DNA size standard of claim 10, wherein said motif sequence is CA.
18. The DNA size standard of claim 10, wherein said DNA fragments lack secondary structure.
19. The DNA size standard of claim 10, wherein said motif sequence comprises a sequence with at least one unique nucleotide base.